IN THE CLAIMS

Claim 1.   (currently amended)   A recording method for a recording medium, comprising the steps of:

modulation processing main data;

recording the modulation processed main data onto a recording medium on which an identification part indicating a type of said recording medium is provided, so that said modulation processed main data are readable as optical changes; and

embedding sub data at least into margin bits of said modulation processed main data based on a format corresponding to said type of said recording medium and recording said sub data along with said modulation processed main data;

wherein the margin bits are used for adjustment of deviation in a direct current balance of the recorded modulation processed main data.

Claim 2.   (previously presented)   The recording method for a recording medium as claimed in claim 1, wherein encryption processing is performed on text data of said main data that are then recorded and said sub data are data for decoding said encryption processing performed on said text data of said main data.

Claim 3.   (previously presented)   The recording method for a recording medium as claimed in claim 1, wherein said sub data is embedded based on a format corresponding to said type of said recording medium, at least a first format for a reproduction-only-type recording medium and a second format for a recordable-type recording medium.

Claim 4.   (canceled)

Claim 5.   (currently amended)   The recording method for a recording medium as claimed in claim 3, wherein ~~modulation processing is performed on said main data that are then recorded onto said recording medium and~~ said sub data are embedded into margin bits of said modulation processed main data so as to satisfy a connection condition due to said modulation processing performed on said modulation processed main data.

Claim 6.   (canceled)

Claim 7.   (currently amended)   The recording method for a recording medium as claimed in claim ~~4~~1, wherein said sub data are embedded in accordance with said modulation processing performed on said main data.

Claim 8. (previously presented) The recording method for a recording medium as claimed in claim 1, wherein said main data have a header portion and data indicating said type of said recording medium is recorded in said header portion.

Claim 9. (currently amended) A recording medium on which modulation processed main data are recorded so that said main data are readable as optical changes and on which sub data are recorded along with said modulation processed main data, said sub data being embedded in at least margin bits of said modulation processed main data based on a format corresponding to a type of the recording medium and said recording medium having an identification part indicating said type of said recording medium;

wherein the margin bits are used for adjustment of deviation in a direct current balance of the recorded modulation processed main data.

Claim 10. (previously presented) The recording medium as claimed in claim 9, wherein encryption processing is performed on text data of said main data that are then recorded and said sub data are data for decoding said encryption processing performed on said text data of said main data.

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Claim 11. (previously presented) The recording medium as claimed in claim 9, wherein said sub data are embedded based on a format corresponding to said type of said recording medium, at least a first format for a reproduction-only type recording medium and a second format for a recordable type recording medium.

Claim 12. (canceled)

Claim 13. (currently amended) The recording medium as claimed in claim 11, wherein ~~modulation processing is performed on said main data that are then recorded onto said recording medium and~~ said sub data are embedded into <u>margin bits of</u> said <u>modulation processed</u> main data so as to satisfy a connection condition due to said modulation processing performed on said main data.

Claim 14. (canceled)

Claim 15. (currently amended) The recording medium as claimed in claim ~~12~~<u>9</u>, wherein said sub data are embedded in accordance with said modulation processing performed on said main data.

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Claim 16. (previously presented) The recording medium as claimed in claim 9, wherein said main data have a header portion and data indicating said type of said recording medium are recorded in said header portion.

Claim 17. (currently amended) A recording method for a recording medium, comprising the steps of:

modulation processing data;

recording said modulation processed data onto a recording medium so that said modulation processed data are readable as optical changes; and

embedding and recording sub data into margin bits of said modulation processed data recorded in a predetermined recording area of said recording medium based on a format corresponding to a type of said recording medium;

wherein the margin bits are used for adjustment of deviation in a direct current balance of the recorded modulation processed data.

Claim 18. (previously presented) The recording method for a recording medium as claimed in claim 17, wherein said recording medium has a first recording area in which said data are to be recorded and a second recording area that is provided at a position to be read prior to said first recording area and in which table-of-contents data are to be recorded; and said

method further comprises the step of embedding said sub data

into said data recorded in said second recording area.

Claim 19.   (canceled)

Claim 20.   (currently amended)   The recording method for a

recording medium as claimed in claim ~~19~~17, wherein said margin

bits are selected based on a format corresponding to said type

of said recording medium.

Claim 21.   (currently amended)   The recording method for a

recording medium as claimed in claim 18, wherein ~~modulation~~

~~processing is performed on said main data that then recorded~~

~~onto said recording medium; and~~ said sub data are embedded into

said modulation processed data so as to satisfy a connection

condition due to said modulation processing.

Claims 22-23.   (canceled)

Claim 24.   (previously presented)   The recording method for

a recording medium as claimed in claim 17, wherein encryption

processing is performed on said data to be recorded onto said

recording medium that are then recorded; and said sub data are

data for decoding encryption processing performed on said data

to be recorded onto said recording medium.

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Claim 25.   (currently amended)   A recording method for a recording medium, comprising the steps of:

identifying a type of a loaded recording medium;

selecting a data format for embedding sub data into modulation processed data recorded on said loaded recording medium based on a result of said identification so that said modulation processed data are readable as optical changes;

discriminating whether a recording area in which recording is to be performed is a recording area in which said sub data should be embedded; and

embedding and recording said sub data into margin bits of modulation processed data to be recorded in a predetermined area of said recording medium based on said selected data format when it is determined that said recording is to be performed in said recording area in which recording is to be performed based on a result of said discrimination;

wherein the margin bits are used for adjustment of deviation in a direct current balance of the recorded modulation processed data.

Claims 26-27.   (canceled)

Claim 28.   (currently amended)   The recording method for a recording medium as claimed in claim 2725, wherein said margin

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bits are selected based on said result of said identification of said type of said recording medium.

Claim 29. (currently amended) The recording method for a recording medium as claimed in claim 27, wherein ~~modulation~~ ~~processing is performed on said main data that are then recorded~~ ~~onto said recording medium; and~~ said sub data are embedded into margin bits of said <u>modulation processed</u> data so as to satisfy a connection condition due to said modulation processing.

Claim 30. (previously presented) The recording method for a recording medium as claimed in claim 28, wherein margin bits in accordance with said predetermined modulation system are selected when said result of said discrimination indicates that said area in which said recording is to be performed is not a recording area in which said sub data should be embedded.

Claims 31-33. (canceled)

Claim 34. (previously presented) The recording method for a recording medium as claimed in claim 25, wherein said recording medium has an identification part indicating whether it is a reproduction-only recording medium or a recordable recording medium; and said method further comprises the step of

identifying said type of said loaded recording medium based on said identification part of said recording medium.

Claim 35.   (canceled)

Claim 36.   (currently amended)   The recording method for a recording medium as claimed in claim ~~35~~25, wherein said margin bits are selected based on said result of said identification of said type of said recording medium.

Claim 37.   (previously presented)   The recording method for a recording medium as claimed in claim ~~35~~25, wherein ~~modulation processing is performed on said main data that are then recorded onto said recording medium; and~~ said sub data are embedded into margin bits of said modulation processed data so as to satisfy a connection condition due to said modulation processing.

Claim 38.   (previously presented)   The recording method for a recording medium as claimed in claim 34, wherein whether said recording medium is one of a write-once recording medium and a rewritable recording medium is identified based on a reflectance of said recording medium; and said sub data are embedded by selecting said margin bits based on a result of said identification.

Claim 39.   (canceled)

Claim 40.   (currently amended)   A recording device for a
recording medium, comprising:

an encoding processing unit for performing recording
modulation processing on inputted data and processing to embed
sub data into margin bits of said modulation processed data
based on a data format selected based on a type of a recording
medium to be recorded; and

a head unit supplied with output data from said encoding
unit and adapted for performing said recording on said recording
medium;

wherein the margin bits are used for adjustment of
deviation in a direct current balance of the recorded modulation
processed data.

Claim 41.   (previously presented)   The recording device for
a recording medium as claimed in claim 40, further comprising an
encryption processing unit for performing encryption processing
on said inputted data and for supplying said data to said
encoding unit.

Claim 42.   (previously presented)   The recording device for
a recording medium as claimed in claim 41, wherein said encoding
processing unit has a modulation processing unit for performing

modulation processing on output data from said encryption

processing unit and causes said modulation processing unit to

embed data for canceling said encryption processing performed on

said output data from said encryption processing unit as said

sub data.

Claim 43-45. (canceled)

Claim 46. (currently amended) The recording device for a

recording medium as claimed in claim 40, further comprising an

identifying unit for identifying said type of a recording medium

loaded on said device, wherein said encoding processing unit

selects said data format and embeds said sub data into the

margin bits of said modulation processed data based on a result

of identification by said identifying unit.

Claims 47-50. (canceled)

Claim 51. (currently amended) A recording device for a

recording medium, comprising:

        a head unit for recording data onto a recording medium

so that said data are optically readable, the recording medium

having a first recording area in which said data are to be

recorded and a second recording area provided at a position to

be read prior to said first recording area;

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an encoding processing unit for performing recording

modulation processing on inputted data and processing to embed

sub data into margin bits of said <u>modulation processed</u> data

based on a data format selected based on a type of said

recording medium; and

a control unit for controlling said encoding

processing unit and said head unit so as to record said

<u>modulation processed</u> data to be recorded in said second

recording area ~~with said sub data embedded in said data~~<u>;</u>

<u>wherein the margin bits are used for adjustment of</u>

<u>deviation in a direct current balance of the recorded modulation</u>

<u>processed data</u>.

Claim 52.   (currently amended) The recording device for a

recording medium as claimed in claim 51, wherein said control

unit discriminates whether said recording area on said

recording medium in which recording is to be performed is said

second recording area and when a result of said discrimination

indicates said second recording area said control unit controls

said head unit to record said <u>modulation processed</u> data ~~with~~

~~said sub data embedded~~ into said second recording area.

Claim 53.   (currently amended) The recording device for a

recording medium as claimed in claim 52, wherein said control

unit discriminates whether said recording area on said recording

medium in which recording is to be performed is said second recording area and when said result of said discrimination indicates said second recording area said control unit controls said head unit to record onto said recording medium said modulation processed data ~~on which modulation processing is performed by said encoding processing unit~~.

Claim 54. (currently amended) The recording device for a recording medium as claimed in claim 51, further comprising an identifying unit for identifying said type of said recording medium loaded on said device, wherein said encoding processing unit selects said data format and embeds said sub data into margin bits of said modulation processed data based on a result of said identification by said identifying unit.

Claims 55-86. (canceled)